

Claims

- [c1] 1. An axle assembly for mounting a wheel hub to a vehicle frame comprising:
a tubular body having first and second ends mountable to the vehicle frame, one of the first and second ends configured to be radially deformable to seize against the vehicle frame, the tubular body including an open-ended slot disposed at one of the first and second ends of the tubular body;
a lever actuator; and
a follower assembly disposed proximate one of the first and second ends of the tubular body and axially displaceable relative to the tubular body in response to pivoting of the lever actuator, the follower assembly configured to radially deform one of the first and second ends of the tubular body in response to displacement of the follower assembly by the lever actuator.
- [c2] 2. The axle assembly of claim 1, wherein the tubular body includes a plurality of open-ended slots disposed at one of the first and second ends of the tubular body.
- [c3] 3. The axle assembly of claim 1, wherein the lever actuator comprises a cam configured to axially displace the

follower assembly in response to pivoting of the lever actuator; and the follower assembly comprises a first expander element disposed proximate one of the first and second ends of the tubular body, the first expander element shaped to radially deform one of the first and second ends of the tubular body in response to axial displacement of the follower assembly by the cam.

[c4] 4. The axle assembly of claim 3, wherein the tubular body includes a plurality of open-ended slots disposed at one of the first and second ends of the tubular body.

[c5] 5. The axle assembly of claim 4, wherein the first expander element is wedge-shaped.

[c6] 6. The axle assembly of claim 3, wherein the follower assembly further comprises a barrel rotatably received by the lever actuator, the barrel eccentrically disposed within the lever actuator such that the cam axially displaces the follower assembly in response to pivoting of the lever actuator.

[c7] 7. The axle assembly of claim 6, further comprising a first spring disposed between the tubular body and the first expander element, the spring configured to bias the first expander element away from the tubular body.

[c8] 8. The axle assembly of claim 7, wherein the tubular

body includes a plurality of open-ended slots disposed at one of the first and second ends of the tubular body.

[c9] 9. The axle assembly of claim 3, wherein the follower assembly further comprises a linking member operably connecting the cam to the first expander element.

[c10] 10. The axle assembly of claim 9, wherein the follower assembly further comprises a barrel rotatably received by the lever actuator, the barrel eccentrically disposed within the lever actuator so as to axially displace the follower assembly in response to pivoting of the lever actuator.

[c11] 11. The axle assembly of claim 10 further comprising a first spring disposed between the tubular body and the first expander element, the spring configured to bias the first expander element away from the tubular body.

[c12] 12. The axle assembly of claim 11, wherein the tubular body includes a plurality of open-ended slots disposed at one of the first and second ends of the tubular body.

[c13] 13. The axle assembly of claim 9, wherein the other of the first and second ends of the tubular body is configured to be radially deformable to seize against the vehicle frame; and the follower assembly further comprises a second expander element disposed proximate the other

of the first and second ends of the tubular body, the second expander element opposably displaceable relative to the first expander element and shaped to radially deform the other of the first and second ends of the tubular body in response to axial displacement of the follower assembly by the cam.

[c14] 14. The axle assembly of claim 13, wherein the follower assembly further comprises a barrel rotatably received by the lever actuator, the barrel eccentrically disposed within the lever actuator so as to axially displace the follower assembly in response to pivoting of the lever actuator.

[c15] 15. The axle assembly of claim 14 further comprising a second spring disposed between the tubular body and the second expander element, the second spring configured to bias the second expander element away from the tubular body.

[c16] 16. The axle assembly of claim 15, wherein the tubular body includes a plurality of open-ended slots disposed at the other of the first and second ends of the tubular body.

[c17] 17. The axle assembly of claim 16, wherein the tubular body further includes an extension tab protruding from

one of the first and second ends of the tubular body, the extension tab disposed proximate the lever actuator so as to be engageable thereby to rotate the tubular body in one of a first and second direction.

[c18] 18. The axle assembly of claim 8, wherein the tubular body further includes an extension tab protruding from one of the first and second ends of the tubular body, the extension tab disposed proximate the lever actuator so as to be engageable thereby to rotate the tubular body in one of a first and second direction.

[c19] 19. The axle assembly of claim 12, wherein the tubular body further includes an extension tab protruding from one of the first and second ends of the tubular body, the extension tab disposed proximate the lever actuator so as to be engageable thereby to rotate the tubular body in one of a first and second direction.